

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Previously amended) A measurement system comprising:
a first log amp;
a second log amp; and
a differencing circuit coupled to the first and second log amps, wherein the differencing circuit consists essentially of a summing node.
5. (Cancelled)
6. (Previously amended) A measurement system comprising:
a first log amp;
a second log amp;
a differencing circuit coupled to the first and second log amps; and
a phase detector core coupled to the first and second log amps.
7. (Original) A measurement system according to claim 6 wherein:
the first log amp has a first limiting output coupled to a first input of the phase detector core; and
the second log amp has a second limiting output coupled to a second input of the phase detector core.
8. (Original) A measurement system according to claim 7 wherein the detector core comprises a multiplier.

9. (Original) A measurement system according to claim 6 further comprising an output interface circuit coupled to the phase detector core.

10. (Cancelled)

11. (Previously amended) A measurement system comprising:
a first log amp; and
a second log amp;
wherein the first and second log amps are co-integrated on a substrate; and
wherein the first and second log amps are arranged symmetrically about a center line.

12. (Cancelled)

13. (Previously amended) A measurement system comprising:
a first log amp;
a second log amp;
a first parasitic network coupled to the first log amp; and
a second parasitic network coupled to the second log amp;
wherein the first and second log amps are co-integrated on a substrate;
wherein the substrate is mounted in a package; and
wherein the first and second parasitic networks have similar frequency responses.

14. (Previously amended) A measurement system comprising:
a first log amp;
a second log amp;
a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and
a third log amp coupled to a third input of the differencing circuit.

15. (Previously amended) A measurement system comprising:
a first log amp;
a second log amp;
a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and

one or more additional log amps coupled to one or more additional inputs of the differencing circuit.

16. (Original) A measurement system comprising:
a first log amp having a first limiting output;
a second log amp having a second limiting output; and
a phase detector core coupled to the first and second log amps to receive the first and second limiting outputs.

17. (Original) A measurement system according to claim 16 wherein the phase detector core comprises a multiplier.

18. (Original) A measurement system according to claim 16 wherein the first and second log amps are co-integrated on a substrate.

19. (Cancelled)

20. (Cancelled)

21. (Previously amended) An integrated circuit comprising:
two or more log amps
a differencing circuit coupled to the two or more log amps; and
a phase detector core coupled to the two or more log amps.

22. (Cancelled)

23. (Cancelled)

24. (Previously amended) A method comprising:
logarithmically amplifying a first input signal, thereby generating a first output signal;
logarithmically amplifying a second input signal, thereby generating a second output signal; and
differentially processing the first and second output signals
wherein:

the first and second output signals are limiting output signals; and
differentially processing the first and second output signals comprises
multiplying the first and second output signals.

25. (Previously amended) A method comprising:
logarithmically amplifying a first input signal, thereby generating a first output signal;
logarithmically amplifying a second input signal, thereby generating a second output
signal;

differentially processing the first and second output signals;
utilizing a signal to be examined as the first input signal; and
utilizing a reference signal as the second input signal.

26. (Original) A method according to claim 25 wherein the reference signal has
the same waveform as the signal to be examined.

27. (Previously amended) A method comprising:
logarithmically amplifying a first input signal, thereby generating a first output signal;
logarithmically amplifying a second input signal, thereby generating a second output
signal;

differentially processing the first and second output signals;
utilizing a modulated signal for the first input signal; and
utilizing a modulation signal for the second input signal.

28. (Currently amended) A measurement system according to claim 2 further
comprising comprising:

a first log amp;

a second log amp;

a differencing circuit coupled to the first and second log amps, wherein the
differencing circuit is arranged to continuously process outputs from the first and second log
amps; and

a power amplifier having an input coupled to an input of the first log amp and an
output coupled to an input of the second log amp;

wherein the first and second log amps are progressive compression log amps.

29. (Previously amended) A measurement system according to claim 4 wherein the log amps have current-mode outputs.